

**CLOSED
CITY OF HELENA LANDFILL
LICENSE NUMBER 90**

HYDROMETRICS

**STATISTICAL EVALUATION OF DECEMBER
1998 GROUNDWATER QUALITY DATA**

MARCH 1999

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**CLOSED
CITY OF HELENA LANDFILL
LICENSE NUMBER 90**

HYDROMETRICS

**FIELD NOTES AND ORIGINAL LAB DATA
SHEETS, DECEMBER 1998**

FEBRUARY 1999

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REPORT
OF THE
COMMISSIONER
OF THE
LAND OFFICE
FOR THE YEAR
1890

IN OREGON

THE
LAND OFFICE
OF THE
STATE OF OREGON

AND
THE
LAND OFFICE
OF THE
STATE OF OREGON

THE
LAND OFFICE
OF THE
STATE OF OREGON

THE
LAND OFFICE
OF THE
STATE OF OREGON

**CLOSED
CITY OF HELENA LANDFILL
LICENSE NUMBER 90**

HYDROMETRICS

**DATA VALIDATION REPORT FOR
GROUNDWATER ORGANIC SAMPLES
COLLECTED IN SEPTEMBER 1998**

OCTOBER 1998

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1950

THE NATIONAL BUREAU OF
STATISTICS

DEPARTMENT OF COMMERCE

ANNUAL REPORT
ON THE
ECONOMY OF THE UNITED STATES
IN 1950

BY
THE NATIONAL BUREAU OF
STATISTICS

WASHINGTON, D. C.
1951

GOVERNMENT PRINTING OFFICE



Hydrometrics, Inc.®

consulting scientists, engineers, and contractors

FILE: Lewis & Clark Co
90 City of Helena (w/ature)
and wtr (corresp)
2727 Airport Road
Helena, MT 59601
(406) 443-4150
Fax: (406) 443-1252 E. Bldg.
(406) 443-4155 W. Bldg.
(406) 443-0760 S. Bldg.
www.hydrometrics.com

November 23, 1998

Ms. Pat Potts
Montana Department of Environmental Quality
Permitting and Compliance Division
WMD / SWP
P.O. Box 200901
Helena, MT 59620

RECEIVED

NOV 24 1998

MONTANA
DEPT. OF ENVIRONMENTAL QUALITY
COMMUNITY SERVICES BUREAU

Dear Pat,

Enclosed for your review are the proposed monitoring sites and analytical schedule for the Fall 1998 semiannual groundwater monitoring at the Helena Landfill. Please call if you have any questions or comments.

Sincerely,

Jodi Bingham, E.I.
Environmental Engineer/Chemist

cc: Ted Hill, City of Helena



5/1/15

HELENA LANDFILL			
Helena Landfill Fall 1998			
SAMPLE SITE AND PARAMETER LIST			
<u>SITE NAME</u>	<u>PARAMETERS</u>		
Monitor wells (In order to be sampled)			
83-6	Table 1		
HL-94-1	Table 1		
HL-94-2	Table 1		
HL-94-3	Table 1		
INF. GALLERY	Table 1 VOC's only		
HL-90-3	Table 1		
HL-90-3 (Duplicate)	Table 1		
I-1	Table 1 VOC's only		
MPC-2	Table 1 VOC's only		
HL-90-2	Table 1		
HL-90-1	Table 1		
MPC-1	Table 1		
MPC-5	Table 1 VOC's only		
EPA-1	Table 1		
Residential Wells (well #84 to be sampled by L&C County WQD)			
5	Table 1 VOC's only		
13	Table 1 VOC's only		
31	Table 1 VOC's only		
40	Table 1 VOC's only		
52	Table 1 VOC's only		
57	Table 1 VOC's only		
75	Table 1 VOC's only		
84	Table 1 VOC's only		
93	Table 1 VOC's only		
96	Table 1 VOC's only		
DI BLANK	Table 1		
RINSATE BLANK	Table 1		

HELENA LANDFILL

Helena Landfill 1 of 1298
SAMPLE SITE AND PARAMETER LIST

DATE NAME	PARAMETERS
Monitor well (in order to be sampled)	
HL-8	Table 1
HL-8A1	Table 1
HL-8A2	Table 1
HL-8A3	Table 1
HL-8A4	Table 1
HL-8A5	Table 1
HL-8A6	Table 1
HL-8A7	Table 1
HL-8A8	Table 1
HL-8A9	Table 1
HL-8A10	Table 1
HL-8A11	Table 1
HL-8A12	Table 1
HL-8A13	Table 1
HL-8A14	Table 1
HL-8A15	Table 1
HL-8A16	Table 1
HL-8A17	Table 1
HL-8A18	Table 1
HL-8A19	Table 1
HL-8A20	Table 1
HL-8A21	Table 1
HL-8A22	Table 1
HL-8A23	Table 1
HL-8A24	Table 1
HL-8A25	Table 1
HL-8A26	Table 1
HL-8A27	Table 1
HL-8A28	Table 1
HL-8A29	Table 1
HL-8A30	Table 1
HL-8A31	Table 1
HL-8A32	Table 1
HL-8A33	Table 1
HL-8A34	Table 1
HL-8A35	Table 1
HL-8A36	Table 1
HL-8A37	Table 1
HL-8A38	Table 1
HL-8A39	Table 1
HL-8A40	Table 1
HL-8A41	Table 1
HL-8A42	Table 1
HL-8A43	Table 1
HL-8A44	Table 1
HL-8A45	Table 1
HL-8A46	Table 1
HL-8A47	Table 1
HL-8A48	Table 1
HL-8A49	Table 1
HL-8A50	Table 1
HL-8A51	Table 1
HL-8A52	Table 1
HL-8A53	Table 1
HL-8A54	Table 1
HL-8A55	Table 1
HL-8A56	Table 1
HL-8A57	Table 1
HL-8A58	Table 1
HL-8A59	Table 1
HL-8A60	Table 1
HL-8A61	Table 1
HL-8A62	Table 1
HL-8A63	Table 1
HL-8A64	Table 1
HL-8A65	Table 1
HL-8A66	Table 1
HL-8A67	Table 1
HL-8A68	Table 1
HL-8A69	Table 1
HL-8A70	Table 1
HL-8A71	Table 1
HL-8A72	Table 1
HL-8A73	Table 1
HL-8A74	Table 1
HL-8A75	Table 1
HL-8A76	Table 1
HL-8A77	Table 1
HL-8A78	Table 1
HL-8A79	Table 1
HL-8A80	Table 1
HL-8A81	Table 1
HL-8A82	Table 1
HL-8A83	Table 1
HL-8A84	Table 1
HL-8A85	Table 1
HL-8A86	Table 1
HL-8A87	Table 1
HL-8A88	Table 1
HL-8A89	Table 1
HL-8A90	Table 1
HL-8A91	Table 1
HL-8A92	Table 1
HL-8A93	Table 1
HL-8A94	Table 1
HL-8A95	Table 1
HL-8A96	Table 1
HL-8A97	Table 1
HL-8A98	Table 1
HL-8A99	Table 1
HL-8A100	Table 1
HL-8A101	Table 1
HL-8A102	Table 1
HL-8A103	Table 1
HL-8A104	Table 1
HL-8A105	Table 1
HL-8A106	Table 1
HL-8A107	Table 1
HL-8A108	Table 1
HL-8A109	Table 1
HL-8A110	Table 1
HL-8A111	Table 1
HL-8A112	Table 1
HL-8A113	Table 1
HL-8A114	Table 1
HL-8A115	Table 1
HL-8A116	Table 1
HL-8A117	Table 1
HL-8A118	Table 1
HL-8A119	Table 1
HL-8A120	Table 1
HL-8A121	Table 1
HL-8A122	Table 1
HL-8A123	Table 1
HL-8A124	Table 1
HL-8A125	Table 1
HL-8A126	Table 1
HL-8A127	Table 1
HL-8A128	Table 1
HL-8A129	Table 1
HL-8A130	Table 1
HL-8A131	Table 1
HL-8A132	Table 1
HL-8A133	Table 1
HL-8A134	Table 1
HL-8A135	Table 1
HL-8A136	Table 1
HL-8A137	Table 1
HL-8A138	Table 1
HL-8A139	Table 1
HL-8A140	Table 1
HL-8A141	Table 1
HL-8A142	Table 1
HL-8A143	Table 1
HL-8A144	Table 1
HL-8A145	Table 1
HL-8A146	Table 1
HL-8A147	Table 1
HL-8A148	Table 1
HL-8A149	Table 1
HL-8A150	Table 1
HL-8A151	Table 1
HL-8A152	Table 1
HL-8A153	Table 1
HL-8A154	Table 1
HL-8A155	Table 1
HL-8A156	Table 1
HL-8A157	Table 1
HL-8A158	Table 1
HL-8A159	Table 1
HL-8A160	Table 1
HL-8A161	Table 1
HL-8A162	Table 1
HL-8A163	Table 1
HL-8A164	Table 1
HL-8A165	Table 1
HL-8A166	Table 1
HL-8A167	Table 1
HL-8A168	Table 1
HL-8A169	Table 1
HL-8A170	Table 1
HL-8A171	Table 1
HL-8A172	Table 1
HL-8A173	Table 1
HL-8A174	Table 1
HL-8A175	Table 1
HL-8A176	Table 1
HL-8A177	Table 1
HL-8A178	Table 1
HL-8A179	Table 1
HL-8A180	Table 1
HL-8A181	Table 1
HL-8A182	Table 1
HL-8A183	Table 1
HL-8A184	Table 1
HL-8A185	Table 1
HL-8A186	Table 1
HL-8A187	Table 1
HL-8A188	Table 1
HL-8A189	Table 1
HL-8A190	Table 1
HL-8A191	Table 1
HL-8A192	Table 1
HL-8A193	Table 1
HL-8A194	Table 1
HL-8A195	Table 1
HL-8A196	Table 1
HL-8A197	Table 1
HL-8A198	Table 1
HL-8A199	Table 1
HL-8A200	Table 1

Groundwater Wells (well 184 to be sampled by L&C only - WQ3)

HL-8A201	Table 1
HL-8A202	Table 1
HL-8A203	Table 1
HL-8A204	Table 1
HL-8A205	Table 1
HL-8A206	Table 1
HL-8A207	Table 1
HL-8A208	Table 1
HL-8A209	Table 1
HL-8A210	Table 1
HL-8A211	Table 1
HL-8A212	Table 1
HL-8A213	Table 1
HL-8A214	Table 1
HL-8A215	Table 1
HL-8A216	Table 1
HL-8A217	Table 1
HL-8A218	Table 1
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HL-8A220	Table 1
HL-8A221	Table 1
HL-8A222	Table 1
HL-8A223	Table 1
HL-8A224	Table 1
HL-8A225	Table 1
HL-8A226	Table 1
HL-8A227	Table 1
HL-8A228	Table 1
HL-8A229	Table 1
HL-8A230	Table 1
HL-8A231	Table 1
HL-8A232	Table 1
HL-8A233	Table 1
HL-8A234	Table 1
HL-8A235	Table 1
HL-8A236	Table 1
HL-8A237	Table 1
HL-8A238	Table 1
HL-8A239	Table 1
HL-8A240	Table 1
HL-8A241	Table 1
HL-8A242	Table 1
HL-8A243	Table 1
HL-8A244	Table 1
HL-8A245	Table 1
HL-8A246	Table 1
HL-8A247	Table 1
HL-8A248	Table 1
HL-8A249	Table 1
HL-8A250	Table 1
HL-8A251	Table 1
HL-8A252	Table 1
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HL-8A255	Table 1
HL-8A256	Table 1
HL-8A257	Table 1
HL-8A258	Table 1
HL-8A259	Table 1
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HL-8A261	Table 1
HL-8A262	Table 1
HL-8A263	Table 1
HL-8A264	Table 1
HL-8A265	Table 1
HL-8A266	Table 1
HL-8A267	Table 1
HL-8A268	Table 1
HL-8A269	Table 1
HL-8A270	Table 1
HL-8A271	Table 1
HL-8A272	Table 1
HL-8A273	Table 1
HL-8A274	Table 1
HL-8A275	Table 1
HL-8A276	Table 1
HL-8A277	Table 1
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HL-8A279	Table 1
HL-8A280	Table 1
HL-8A281	Table 1
HL-8A282	Table 1
HL-8A283	Table 1
HL-8A284	Table 1
HL-8A285	Table 1
HL-8A286	Table 1
HL-8A287	Table 1
HL-8A288	Table 1
HL-8A289	Table 1
HL-8A290	Table 1
HL-8A291	Table 1
HL-8A292	Table 1
HL-8A293	Table 1
HL-8A294	Table 1
HL-8A295	Table 1
HL-8A296	Table 1
HL-8A297	Table 1
HL-8A298	Table 1
HL-8A299	Table 1
HL-8A300	Table 1

HL-8A301
HL-8A302

Table 1
Table 1

**CLOSED
CITY OF HELENA LANDFILL
LICENSE NUMBER 90**

HYDROMETRICS

**STATISTICAL EVALUATION OF JUNE 1998
GROUNDWATER QUALITY DATA**

SEPTEMBER 1998

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CLASSIFIED
CITY OF MILWAUKEE
IN THE NUMBER OF

BY THE BOARD OF

STATISTICAL EVALUATION OF THE CITY
COUNCIL AND THE BOARD OF

REPRESENTATIVE

RELOCATED TO THE UNIVERSITY
HOSPITAL, MILWAUKEE
BOX 200000

RELOCATED TO THE



Hydrometrics, Inc.

consulting scientists, engineers & contractors

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City of Helena (Inactive)
gnd wtr (Corresp) +
2727 Airport Road
Helena, MT 59601
(406) 443-4150
Fax: (406) 443-4155 or
(406) 443-1252
www.hydrometrics.com
Copr. Miss.

September 30, 1998

Pat P
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OCT 01 1998

MONTANA
DEPT. OF ENVIRONMENTAL QUALITY
COMMUNITY SERVICES BUREAU

Kim Milburn
Public Works Director
City of Helena
316 North Park Ave.
Helena, MT 59623

RE: Minutes of 9/22/98 City of Helena Landfill Methane and Groundwater Remediation Meeting

Dear Kim:

This letter is to transmit the minutes of the September 22, 1998 meeting between the City of Helena and the Montana Department of Environmental Quality (MDEQ) in regards to the City of Helena landfill methane and groundwater remediation.

Attending: Kim Milburn, City of Helena
Ted Hill, City of Helena
Pat Potts, MDEQ
Pat Crowley, MDEQ
Ken Kapsi, MDEQ
Mike Wignot, Hydrometrics, Inc.
Jodi Bingham, Hydrometrics, Inc.

Existing YMCA Gas Extraction System

- Jodi Bingham gave an update of the existing YMCA gas extraction system.
- Hydrometrics is currently increasing flows in gas extraction wells EW-2, EW-3 and EW-4 to try to further reduce methane concentrations in monitoring probes HL-9, HL-10 and HL-18.
- A second carbon canister for off-gas treatment to eliminate possibility of discharge after breakthrough in first canister is scheduled for next week. (Installed September 28, 1998.)
- Pat Crowley considers HL-9, HL-10 and HL-18 compliance wells as the YMCA building area was never permitted with the landfill. Pat will send information showing the permitted boundary to Ted Hill for his files.
- Jodi Bingham will prepare a map with all extraction wells, monitoring probes, groundwater sampling wells, etc. She will send a copy to Pat Crowley with October monthly report.

Hydroponics, Inc.
1000 North Main Street
P.O. Box 1000
Tampa, Florida 33601

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OCT 01 1988

UNITED STATES
DEPARTMENT OF ENVIRONMENTAL QUALITY
COMMUNITY SERVICES BUREAU

TO: [Illegible]

FROM: [Illegible]

SUBJECT: [Illegible]

[Illegible body text]

Proposed Carroll College Gas Extraction System

- Jodi Bingham gave an update on the proposed Carroll College gas extraction system.
 - Methane probes along west boundary are being monitored monthly.
 - Hydrometrics presented six alternatives to the City in April and are waiting for Carroll College and the City to work out the property boundary issues before continuing design phase.
- Kim Milburn indicated that the City has been working with Carroll College to try to resolve their differences. In a meeting with Lynn Etchart and Tom McCarvel, a verbal agreement was reached in which the City would regain all the landfilled property (new facility boundary would extend 30 feet west of existing garbage). He will get back in touch with them this week about finalizing the deal.
- Once this issue has been resolved, the design phase can continue.
 - Ted Hill said that their budget for this fiscal year includes the Carroll College gas extraction system.
 - A passive trench and piping with the capability for a future retrofit with a blower, should the need arise, was agreed upon by the City and Pat Crowley as the best option.
 - The City has the option to repermit the landfill to include the Carroll College property; however, reopening the permit is a lot of work and isn't necessary according to Pat Crowley. Pat recommended that the trench be installed and the monitoring probes on the west side of the trench be used as the compliance points, even though they are technically beyond the permitted property boundary.

Groundwater Remediation

- With the YMCA gas extraction system installed and the Carroll College gas extraction system in the works, groundwater remediation is the remaining concern.
- Pat Crowley presented a draft letter stating that with the current gas quality at the YMCA gas extraction system, a global gas extraction system would not improve groundwater quality and another corrective measure should be selected. Pat also noted that a gas sample collected from the Carroll College side may yield different results that could support the use of a global gas extraction system for groundwater remediation.
- Compliance wells MPC-1 and HL-90-1 still exceed the MCL's for perchloroethene (PCE).
- Pat Potts stated that concentrations of PCE in I-4 have been increasing and other wells that have previously been clean now have detectable concentrations. It is her opinion that the plume is spreading.
- The City was given two years to monitor the existing gas extraction system to evaluate the affects on groundwater quality. However, Pat Crowley had previously stated that because the system was not global, the two-year monitoring period did not apply here.

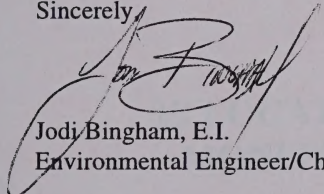
- Alternatives for groundwater remediation included seasonal irrigation and air sparging.
- Pat Potts suggested the City (Hydrometrics) began modeling the groundwater and investigating the irrigation alternative.
- The state has GMS (version of Modflow) and would like the input files to double check Hydrometrics' modeling results.
- Pat Crowley stated that MDEQ was not likely to consider natural attenuation as a remediation alternative.

Schedule

- For compliance of YMCA gas extraction wells (bringing monitoring probes into compliance), Pat Potts thought the two-year period already agreed to was sufficient.
- For the Carroll College gas extraction system, the property issues should be settled and an alternative selected by the end of October with design and construction to be completed by next summer.
- For the groundwater remediation, the groundwater modeling for irrigation well installation and further investigation of the air sparging alternative should be completed by the end of October.
- Another meeting similar to this one was tentatively scheduled for the week of October 26th to discuss the progress on the Carroll College gas extraction system and to present the results of the groundwater modeling.

If you have any questions or comments concerning this summary, please feel free to call me.

Sincerely,



Jodi Bingham, E.I.
Environmental Engineer/Chemist

c: Ted Hill, City of Helena
Pat Potts, MDEQ
Pat Crowley, MDEQ
Ken Kapsi, MDEQ
Mike Wignot, Hydrometrics

**CLOSED
CITY OF HELENA LANDFILL
LICENSE NUMBER 90**

HYDROMETRICS

**ANALYTICAL RESULTS AND FIELD NOTES,
JUNE 1998 SAMPLING**

AUGUST 1998

**IS LOCATED IN THE GROUNDWATER
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Hydrometrics, Inc.

consulting scientists, engineers & contractors

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2727 Airport Road
Helena, MT 59601
(406) 443-4150
Fax: (406) 443-4155 or
(406) 443-1252
www.hydrometrics.com

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MAY 20 1998

MONTANA
DEPT. OF ENVIRONMENTAL QUALITY
COMMUNITY SERVICES BUREAU

May 19, 1998

Ms. Pat Potts
Montana Department of Environmental Quality
Solid Waste Management Program
Cogswell Building
Capitol Station
Helena, MT 59620

Dear Pat,

Enclosed for your review is a memorandum with the proposed monitoring sites and analytical schedule for the Spring 1998 groundwater monitoring at the Helena Landfill. This sampling schedule includes well 83-7, which will help evaluate the effectiveness of the gas extraction system which is now operational. This was added in accordance with your letter to the City dated March 3, 1998. Sampling is scheduled for June.

Please call if you have any questions or comments.

Sincerely,

Steven K. Downs, P.E.
Project Manager

c: Mr. Ted Hill, City of Helena

MEMORANDUM

TO: Dave Sitch
FROM: Steve Downs
DATE: May 15, 1998
RE: City of Helena - Spring 1998 Sampling

Attached is a list of wells which need to be sampled for the Helena Landfill project. We have added well 83-7 to be consistent with commitments made to MDEQ. Please sample each of these wells for the parameters noted below. The monitoring wells should be sampled in the following order:

1) 83-6 2) HL-94-1 3) HL-94-2 4) HL-94-3 5) INF. GALLERY 6) HL-90-3 7) I-1
8) MPC-2 9) HL-90-2 10) HL-90-1 11) MPC-1 12) MPC-5 13) EPA-1 14) WELL 83-7

You will need to get a key from Mike Downs at MPC for well MPC-5. All of the monitoring wells except I-1, Infiltration Gallery, MPC-2, and 83-7 will be sampled for the entire Table 1 parameter list. These four wells will be sampled only for the VOC's portion of the list. We also need to include a DI blank, a rinseate blank and a duplicate of HL-90-3.

In addition to this sampling, it would be helpful to obtain water level measurements in as many of the wells on the attached list as possible, so that we can produce an accurate potentiometric surface map.

We also need to sample the residential wells denoted on the attached list (except for well #84 which will be sampled by the Water Quality District, please call Vivian Drake at WQD and ask them to sample this well). These wells will be sampled for VOC's only. Below are addresses and numbers for the domestic well owners.

<u>SITE</u>	<u>NAME</u>	<u>ADDRESS</u>	<u>PHONE</u>
31	Dale Gardner	1430 Brady	442-6314
5	Sandra Colvin	350 Custer	443-7463
13	Ed Johnson	102 Oakwood	442-8948
40	Ed Hartman	2509 Teakwood	442-1331
52	Elton Hartze	Custer and Gr. Meadow (trailer court)	443-1622
57	Gwen Francis	112 Dunbar	442-2739
75	Jack Creach	104 Reed	442-1855
93	R. Hecht	932 Aspen	443-5510
96	Ed McHugh	see map	442-0013

Please let me know if you have any questions or if anything is unclear.

93 2/26/98 INITIALS

SOLID WASTE OUTGOING CORRESPONDENCE ROUTE

☐ NEW APPLICATION Initial / Date
Rick T. _____
Pat C. _____
Nancy (Proof) _____
Cathy _____
Jon D. _____

☐ NEW LICENSE Initial / Date
Rick T. _____
Pat C. _____
Nancy (Proof) _____
Carol _____
Cathy _____
Jon D. _____

☐ HEALTH OFFICER CARD Initial / Date
Rick T. _____
Carol _____
Cathy _____

☐ INSPECTIONS Initial / Date
Pat C. _____
Nancy (Proof) _____
Carol _____
Jon D. _____

☐ INTERIM CLOSURES Initial / Date
Rick T. _____
Pat C. _____
Nancy (Proof) _____
Carol _____
Cathy _____
Jon D. _____

☐ CLOSURES Initial / Date
Rick T. _____
Pat C. _____
Nancy (Proof) _____
Carol _____
Cathy _____
Jon D. _____

☐ CHANGE IN LICENSE FOR FEE STATUS Initial / Date
Rick T. _____
Pat C. _____
Nancy (Proof) _____
Cathy _____

☐ COMPLAINTS Initial / Date
Pat C. _____
Nancy (Proof) _____
Carol (filing & DBase) _____

☒ GROUND WATER Initial / Date
Nancy (Proof) _____
Pat C. _____
ND 2/26/98
PCC 3/1

☐ GENERAL CORRESPONDENCE Initial / Date
Pat C. / Rick T. _____
Nancy (Proof) _____
Jon D. (As Needed) _____
Mark Steger Smith (As Needed) _____

☐ MISCELLANEOUS Initial / Date
_____ _____
mailed _____
ND 3/3/98

☐ FILE SW/L+C.CO/L+CHEL.QTR
Lewis + Clark Co

2-5
8
DEPARTMENT OF ENVIRONMENTAL QUALITY
PERMITTING & COMPLIANCE DIVISION

Community Services Bureau
Waste Management Section

MARC RACICOT, GOVERNOR



STATE OF MONTANA

Phone: (406)444-4400
Fax: (406)444-1374

Metcalf Building
1520 E Sixth Ave
PO Box 200901
Helena, MT 59620-0901

March 3, 1998

Ted Hill
City of Helena
316 North Park
Helena, Montana 59623

**RE: CITY OF HELENA CLASS II LANDFILL (INACTIVE), LEWIS AND CLARK
COUNTY - LICENSE NO. 90
GROUND WATER MONITORING - EFFECTIVENESS OF CORRECTIVE MEASURE**

Dear Mr. Hill:

I understand that the landfill gas extraction system for the City of Helena Class II (inactive) Landfill is nearly operational. As we discussed in our meeting on July 29, 1997, in order to demonstrate the effectiveness of the gas extraction system on the remediation of the ground water, additional sampling will be necessary to evaluate gas extraction as a corrective measure at this site [ARM 17.50.710(7)(c)(ii)].

Several ground water monitoring wells that have equaled or exceeded standards need to be sampled quarterly for the list of volatile organic compounds on Table 1 (ARM 17.50.708). In our July 1997 meeting the following wells were selected to be sampled quarterly for VOCs: 83-7, MPC-1, EPA-1, and HL-90-1.

If you have any questions on this matter, please contact me. My direct phone line is 444-0538.

Sincerely,

A handwritten signature in dark ink, appearing to read "Pat Potts".

Pat Potts

Environmental Specialist - Solid Waste Regulatory Program

cc: Steve Downs, Hydrometrics, Inc.
Kim Milburn, City of Helena
Vivian Drake, City-County Bldg.
City of Helena Manager

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